

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) An ablation treatment apparatus, comprising:
an introducer having a distal portion and a proximal portion; and
at least one antenna positioned in the introducer as the introducer is introduced through tissue and exhibiting ~~a changing direction of travel at least one radius of curvature from a longitudinal axis of the introducer~~ when deployed from the introducer at a selected tissue mass, said at least one antenna being operatively coupled to a microwave energy source; and
at least one thermal sensor coupled to at least one of (i) the introducer, or (ii) at least one of the at least one antennas.
2. (previously presented) The apparatus of claim 1, wherein at least a portion of a distal end of the at least one antenna is constructed to be structurally less rigid than the introducer, and the introducer is constructed to be rigid enough to be introduced through tissue.
3. (previously presented) The apparatus of claim 1, further comprising:
a feedback control system operatively coupled to the at least one sensor and the microwave energy source.
- 4-6. (canceled)
7. (previously presented) The apparatus of claim 1, wherein said at least one antenna comprises at least two antennas, each of the antennas having an energy delivery surface to create an ablation volume between the energy delivery surfaces.

8. (previously presented) The apparatus of claim 1, wherein each antenna includes at least one thermal sensor to measure temperature.

9. (previously presented) The apparatus of claim 1, wherein said at least one antenna comprises at least three antennas, each of the antennas having an energy delivery surface to create an ablation volume between the energy delivery surfaces.

10. (canceled)

11. (previously presented) The apparatus of claim 1, further comprising: an insulation sleeve positioned in a surrounding relationship around at least a portion of at least one of (i) the introducer, or (ii) the at least one antenna.

12. (previously presented) The apparatus of claim 11, wherein the insulation sleeve is adjustably moveable along an exterior of the introducer or the at least one antenna.

13-14. (canceled)

15. (original) The apparatus of claim 1, further including a ground pad electrode.

16-17. (canceled)

18. (previously presented) The apparatus of claim 1, wherein the introducer is hollow and coupled to an infusion medium source to receive an infusion medium.

19. (previously presented) The apparatus of claim 1, further comprising: a cooling element coupled to the introducer.

20. (currently amended) A method for creating an ablation volume in a selected tissue mass, comprising:

providing an ablation device with an introducer, at least one antenna with a distal end and being operatively coupled to a microwave energy source, and at least one thermal sensor coupled to at least one of (i) the introducer, or (ii) at least one of the at least one antennas;

inserting the introducer into the selected tissue mass with the at least one antenna distal end positioned in the introducer lumen;

advancing the at least one antenna distal end out of the introducer lumen and into the selected tissue mass with at least one radius of curvature from a longitudinal axis of the introducer;

delivering electromagnetic energy from the microwave energy source to the at least one antenna; and

creating an ablation volume in the selected tissue mass.

21. (previously presented) The method of claim 20, wherein said at least one antenna comprises at least two antennas, each having an energy delivery surface, are advanced from the primary antenna, and an ablation volume is created between the two antennas energy delivery surfaces.

22. (omitted)

23. (previously presented) The method of claim 21, wherein the at least two antennas are advanced out of a distal end of the introducer.

24. (previously presented) The method of claim 21, wherein the at least two antennas are advanced out of separate ports formed in the introducer.

25-29. (canceled)

30. (previously presented) The method of claim 20, wherein the introducer is operatively coupled to an energy source and has an energy delivery surface.

31. (previously presented) The apparatus of claim 3, wherein the feedback control adjusts at least one of (i) a power level, (ii) a duty cycle, and (iii) an energy delivery in response to the temperature measured at the at least one sensor.

32. (previously presented) The apparatus of claim 1, further comprising:
a display for displaying temperature values measured at the at least one sensor.

33. (previously presented) The apparatus of claim 1, wherein said introducer is an antenna operatively coupled to an energy source.

34. (previously presented) The apparatus of claim 33, wherein said introducer is coupled to a RF energy source.

35. (previously presented) The apparatus of claim 1, wherein the introducer includes a tissue piercing distal end.

36. (previously presented) The apparatus of claim 3, further comprising:
a controller coupled to the energy source and at least one of (i) the at least one thermal sensor and (ii) the feedback control to adjust the energy supplied to the antennas in response to the temperature measured at the at least one sensor.

37. (previously presented) The apparatus of claim 20, further comprising:
adjusting the energy supplied to the at least one antenna in response to a temperature measured at the at least one sensor.